

ORTEC

Workforce Scheduling



Advanced Planning Software
for Workforce Scheduling →

ORTEC
OPTIMIZE YOUR WORLD

Introduction

From policy making to registration and evaluation; ORTEC Workforce Scheduling supports the entire process involved in organizing work and personnel. The extremely flexible application can be precisely configured to suit processes in every organization, in order to optimize these processes and produce efficient and effective staff schedules. ORTEC Workforce Scheduling (ORTEC WS) supports a wide range of schedules (including combined schedules), varying from cyclical and bid schedules to complete self-scheduling. The application also offers the option of centralized or decentralized schedule generation. All of that flexibility helps contribute to a good work-life balance, and it increases employee involvement and satisfaction.

The following chapters describe the most important functionality and features of ORTEC WS. Other options include the use of intelligent planning boards, real-time monitoring of hours and rules, processing ergonomic and individual requirements, tracking bonus rights and schedule characteristics, monitoring compliance with specific norms, and the use of advanced optimization algorithms. We also explain how you can ensure that the hours worked and hours absent are registered and processed accurately.



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Intelligent plan boards

The plan board in ORTEC WS is the planner's most important tool. The planner uses this screen on a daily basis to draw up future rosters or modify the current roster due to changing circumstances. The planner can carry out the most important actions directly from the plan board.

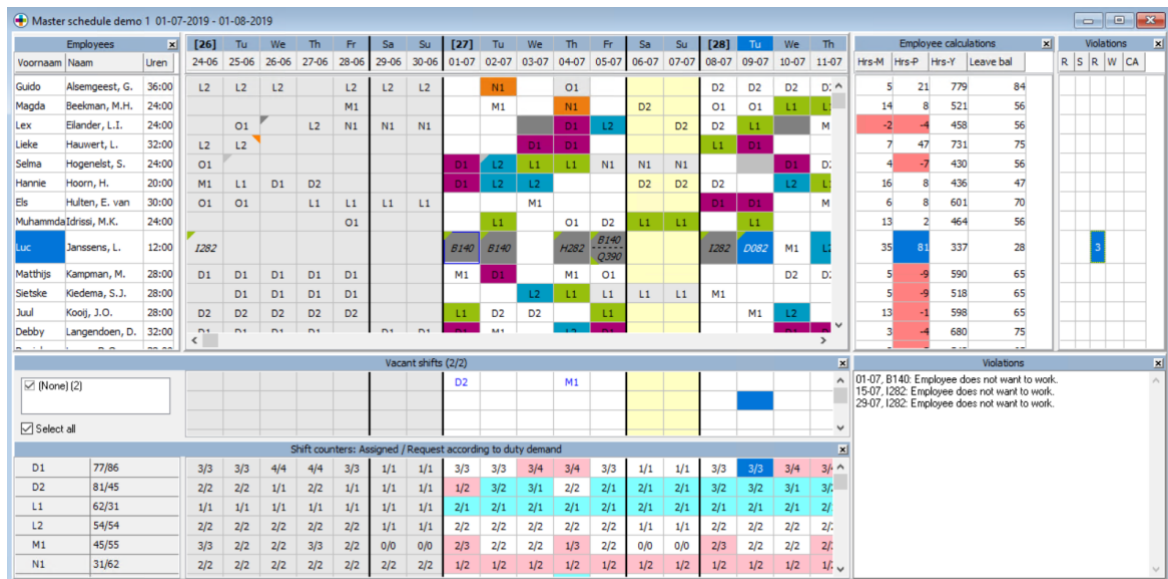


Figure 1: Configurable plan board

Insight and overview

A plan board's most important function is providing insight and overview. Users largely determine themselves how they want the information to be displayed within plan boards.

Personal display settings

Personal display settings enable the plan board to be adapted to the planner's preferences or to the situation in which the screen is used. Accordingly, the user determines:

- which employee details to display in the plan board,
- how to sort the list of employees,
- how shifts are to be displayed (times or codes, colors),
- which calculations are to be displayed (both horizontally as well as vertically); the planner can switch quickly between different calculations.

Filters and sorting

By setting filters, it is possible to zoom in to a partial group of employees. ORTEC WS offers a range of sorting options to help users determine the order in which employees are displayed.

Planners can set their own sort lists, are free to divide employees into sort groups, and can sort according to the value of a calculation. For example, employees with the lowest amount of overtime can be featured at the top of the list.

Highlighting based on calculations

By highlighting based on a calculation, it is possible to quickly see which shifts are contributing to a calculation. For example, using highlighting, ORTEC WS can highlight all shifts that include overtime based on the overtime balance.

Calculations

Both horizontal calculations (shifts per person) and daily calculations (shifts per day) can be specified per user. It is possible to switch quickly between different calculations within the plan board.

Because accounts can also be displayed as a calculation, it is possible to display employment conditions directly related to the plan (for example the balance of annual leave or overtime). These are immediately visible in the plan board.

Immediate linking and checks

All plan boards within ORTEC WS contain real time checks relating to the rules configured as Employment Conditions (from Awards and Enterprise Bargaining Agreements). If a planning action leads to a violation of these rules, this will be displayed clearly in the plan board.

ORTEC WS immediately and permanently displays violations in the plan board. The calculations in the plan board are updated in real time, even when a colleague makes a change to the roster.

Candidates for Shift

Once the roster is finished, the challenge is to respond to ad hoc disruptions. The 'Candidates for Shift' tool in ORTEC WS provides various alternatives for planning a shift that has become available. For example, to find a replacement for a sick employee. 'Candidates for Shift' is highly configurable. Different shift proposal criteria can be defined based on your organization's goals or KPIs. For example, some organizations focus mainly on minimizing cost, while other organizations want to select employees based on employee wishes.



Candidates for shift D2 (08:00 - 16:30), 01-07-2019

Shift proposal criteria
1. Shift proposal

Proposal from other departments
☐ Use proposal departments Minimal number of results 10 ☐ Use central department

Name	#Violation	RoosterVr	Replace	Hours	Skill Y/N
Hauwert, L.	0	Yes		47:07	Yes
Siemons, H.H.J.	0	Yes		39:09	Yes
Perez, V.	0	Yes		33:12	Yes
Alsemgeest, G.	0	Yes		21:12	Yes
Beekman, M.H.	0	Yes		07:58	Yes
Hulten, E. van	0	Yes		07:50	Yes
Idrissi, M.K.	0	Yes		01:58	Yes
Elander, L.I.	0	Yes		-07:02	Yes
Zandstra, J.	0	Yes		-07:57	Yes
Kiedema, S.J.	0	Yes		-08:57	Yes
Plas, J.	0	No	L1	38:12	Yes
Vossen, C.	0	No	L2	23:12	Yes
Hoorn, H.	0	No	D1	07:53	Yes
Schalk, F. van	0	No	M1	-00:53	Yes
Kooij, J.O.	0	No	L1	-00:57	Yes
Langendoen, D.	0	No	D1	-03:53	Yes
Roekel, S. van	0	No	N1	-04:02	Yes
Sytsema, J.	0	No	O1	-05:02	Yes

Proposal details for employee Hauwert

Name	#Violation	RoosterVr	Replace	Hours	Skill Y/N	Tel.nr.	Mobiel	Huis nr.
Hauwert, L.	0	Yes		47:07	Yes			

Current shifts for employee Hauwert, L.

28-06-2019	29-06-2019	30-06-2019	01-07-2019	02-07-2019	03-07-2019	04-07-2019
-	-	-	-	-	D1	D1

Figure 2 - Candidates for shift

A different view of the world

In general, it is preferable to look at the shift roster from the employee's point of view. This is important because labor regulations and contractual agreements have an impact on every individual's roster. Alternatively, the planner can decide to look at the staffing per shift, for example to check whether a service has sufficient staffing levels or to see if sufficient continuity in staffing exists. 'Duty view' displays the roster from these different perspectives.

[Duty view] Master schedule demo 1 01-07-2019 - 01-08-2019

Duty name	Duty labor-time	[27] 01-07	Tu 02-07	We 03-07	Th 04-07	Fr 05-07	Sa 06-07	Su 07-07	[28] 08-07	Tu 09-07
O1	07:15 - 11:15	Spijkers, E. Sytsema, J.	Spijkers, E. Sytsema, J.	Spijkers, E. Sytsema, J.	Alsemgeest, G. Idrissi, M.K. Sytsema, J.	Kampman, M. Sytsema, J.			Beekman, M.H. Lopez, D.O.	Beekman, M.H. Roekel, S. van
D2	08:00 - 16:30	Hauwert, L. Kooij, J.O. Plas, J. Stok, Y.	Kooij, J.O. Plas, J. Schalk, F. van	Kooij, J.O. Plas, J. Schalk, F. van	Plas, J. Idrissi, M.K.	Idrissi, M.K.	Beekman, M.H.	Elander, L.I.	Alsemgeest, G. Lopez, D.O.	Alsemgeest, G. Lopez, D.O.
L1	13:30 - 22:00	Kooij, J.O. Plas, J.	Idrissi, M.K. Stok, Y.	Hogenelst, S. Vossen, C.	Hogenelst, S. Kiedema, S.J.	Kiedema, S.J.	Idrissi, M.K.	Idrissi, M.K.	Hauwert, L. Spijkers, E.	Elander, L.I. Idrissi, M.K.
M1	14:00 - 18:00	Kampman, M. Schalk, F. van	Beekman, M.H. Langendoen, D.	Hulten, E. van Roekel, S. van	Kampman, M.	Schalk, F. van Vossen, C.			Kiedema, S.J. Vossen, C.	Kooij, J.O. Vossen, C.

Available Employees

Alsemgeest, G.	Hauwert, L.	Alsemgeest, G.	Hoorn, H.	Alsemgeest, G.	Alsemgeest, G.	Alsemgeest, G.	Hogenelst, S.	Hogenelst, S.
Beekman, M.H.	Hulten, E. van	Beekman, M.H.	Hulten, E. van	Beekman, M.H.	Elander, L.I.	Beekman, M.H.	Idrissi, M.K.	Hoorn, H.
Elander, L.I.	Kiedema, S.J.	Elander, L.I.	Kooij, J.O.	Hauwert, L.	Hauwert, L.	Hauwert, L.	Kampman, M.	Kampman, M.
Hulten, E. van	Mense, M.	Idrissi, M.K.	Lopez, D.O.	Hoorn, H.	Hulten, E. van	Hulten, E. van	Kooij, J.O.	Kiedema, S.J.
Idrissi, M.K.	Roekel, S. van	Janssens, L.	Mense, M.	Hulten, E. van	Janssens, L.	Janssens, L.	Langendoen, D.	Langendoen, D.
Kiedema, S.J.	Siemons, H.H.J.	Kampman, M.	Roekel, S. van	Lopez, D.O.	Kampman, M.	Kampman, M.	Roekel, S. van	Siemons, H.H.J.
Mense, M.	Zandstra, J.	Langendoen, D.	Siemons, H.H.J.	Mense, M.	Kooij, J.O.	Kooij, J.O.	Siemons, H.H.J.	Spijkers, E.
Perez, V.		Mense, M.	Spijkers, E.	Siemons, H.H.J.	Langendoen, D.	Langendoen, D.	Stok, Y.	Stok, Y.
Siemons, H.H.J.		Siemons, H.H.J.	Stok, Y.	Spijkers, E.	Lopez, D.O.	Lopez, D.O.	Sytsema, J.	Sytsema, J.
Zandstra, J.		Stok, Y.			Mense, M.	Mense, M.		

Figure 3 - Duty view

A more detailed view

For some organizations, it is essential to plan at a more detailed level than the shift. Within ORTEC WS, planners are able to zoom in to the *Workstation Planning (optional module)* directly from the roster plan board. This plan board is identical in terms of its structure, but displays the workplaces to which employees have been assigned as a Gantt chart. This plan board also shows how this relates to the staffing requirements that apply to these workplaces.

In addition

- Sick leave can be added directly in the plan board. ORTEC WS automatically unassigns the original shift or shifts so the planner can look for a replacement using the 'Candidates for shift' tool.
- From the time a roster has the 'Published' status, ORTEC WS logs all modifications that are made to the roster, not only to record which employees may need a notification, but also to record changes that impact the payroll. Here ORTEC WS makes a distinction between changes that are initiated by employees themselves ('requested') and changes that are important to the organization ('required').
- Employees can be directly "hired in from" or "hired out to" a different department.
- The same applies to shifts. Shifts can be passed on with a single action to, for example, the person drawing up the roster for the *Flexpool (optional module)*.
- If an employee has a shift in a different department, this can also be seen in the plan board of the 'home' department. Calculations and real-time checks continue as usual.
- It is possible to allocate more than one shift in one day to an employee.
- The shifts palette quickly provides an understanding of all shifts that are defined within the roster group.
- Standard command functionalities, such as copying, cutting, pasting, dragging and dropping of shifts, repeat entry and multi-select, are available for planning.
- Planners can enter a remark for a particular shift, such as the telephone number on which someone can be reached during a training course.



Schedule groups

Department

In ORTEC WS, a department is a group of employees who are jointly responsible for a number of tasks, activities or services that are to be performed, forming the lowermost level in the organization. The planner draws up a roster per department based on the staffing requirements that apply to that group of employees.

Organizational structure

The organizational structure combines different schedule groups into organizational units or clusters. ORTEC WS makes it possible to represent the entire organizational structure at an unlimited number of levels.

The screenshot shows the 'Organization Flexpool demo' window. On the left, a tree view under 'Organization' lists several clusters and departments, with 'Flexpool demo' selected. The main area contains a form for 'Properties of Flexpool demo' with fields for Description, Address, Contact information, Cost center (set to '(None)'), Code (set to '601'), Valid from, and unit. There are checkboxes for 'FlexPool' and 'Process exchange requests directly without approval by a planner'. On the right, a 'Colors of Flexpool demo' section allows selecting colors for the department.

Figure 4 – Set-up of departments in ORTEC WS

Dynamic scheduling

The organizational structure should not prevent the available human resources from being used efficiently. ORTEC WS allows employees to work in several departments simultaneously. Checks and counts will continue to be tracked over different rosters.

Experience shows that allocating people and work is not static. First, as previously mentioned, employees may work in several departments. In addition, one department may have a staff shortage, while other departments have a surplus of people. In these situations, ORTEC WS provides the “hiring in” and “hiring out” function, which is used to transfer employees temporarily to a different

roster group. It is also possible to subcontract an employee to a different department. This function is particularly useful for organizations that make extensive use of temporary staff or (internal) temping agencies or flex pools.

In addition

- Each department can have a unique color as its identifier. This makes it possible to see at a glance where shared employees are working in the shift roster. A cost center may be attached to each roster group. By default, costs are allocated to this cost center for all shifts within the roster group. It is possible to deviate from this per shift or activity.
- It is possible to define additional properties for the shifts per roster group. For example, to indicate that the shift requires special clothing or equipment. Counters for these shift properties can be configured in the plan board.
- Positions and qualifications can be defined at all levels of the organization. For example, the First Aid qualification can be used throughout the entire organization, while the 'team leader' qualification can have a different meaning per department.

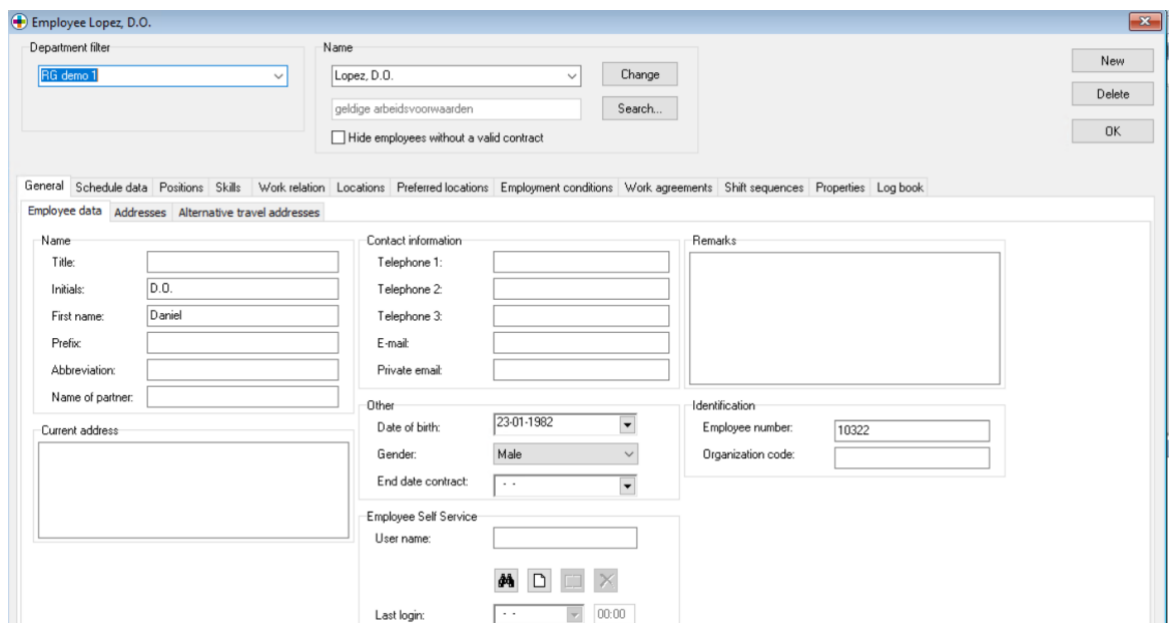


Employees

Employee master data

In general, employee master data is recorded in a Human Resources Information System (HRIS). ORTEC WS can interface with any third-party HRIS to present employee master data, while keeping the HRIS as the 'source of truth.' ORTEC has experience working with many HR systems vendors.

Looking ahead is important in the rostering process. A planner may need to roster an employee even when the relevant master data is not yet available in the HRIS. ORTEC WS enables employees to be entered and planned temporarily. When the new employee joins the organization, his or her personal details will be added automatically through the interface with the HRIS.



The screenshot shows the 'Employee Lopez, D.O.' form in the ORTEC WS interface. The form is divided into several sections:

- Department filter:** A dropdown menu showing 'RG demo 1'.
- Name:** A dropdown menu showing 'Lopez, D.O.' with a 'Change' button next to it.
- geldige arbeidsvoorwaarden:** A text field.
- Hide employees without a valid contract:** A checkbox.
- Buttons:** 'New', 'Delete', and 'OK' buttons are located on the right side.
- Tabs:** 'General', 'Schedule data', 'Positions', 'Skills', 'Work relation', 'Locations', 'Preferred locations', 'Employment conditions', 'Work agreements', 'Shift sequences', 'Properties', and 'Log book'.
- Employee data:**
 - Name:** Fields for Title, Initials (D.O.), First name (Daniel), Prefix, Abbreviation, and Name of partner.
 - Contact information:** Fields for Telephone 1, Telephone 2, Telephone 3, E-mail, and Private email.
 - Other:** Fields for Date of birth (23-01-1982), Gender (Male), and End date contract.
 - Employee Self Service:** A field for User name.
 - Current address:** A large text area.
- Identification:** Fields for Employee number (10322) and Organization code.
- Remarks:** A large text area.
- Last login:** A field showing a date and time (00:00).

Figure 5 - Employee master data

Assignment to departments

ORTEC WS offers flexible allocation for departments. Employees can be assigned and removed from a department at any time and cannot be scheduled after the specified end date. As soon as employees have been assigned to a department, they appear in that department's roster. In doing so, ORTEC WS also displays any shifts the employee is working in a different department. Occasional staffing in a different department is possible by hiring employees in or out.

Position and skills

Positions and skills can be used to validate activities or shifts that an employee is permitted to carry out. When assigning a shift to an employee, ORTEC WS monitors whether that employee is qualified to carry out the work, in real time.

Expiration of skills

In order to perform certain tasks, an employee may be required to work a certain number of hours so that knowledge and routine are not lost. Other skills may expire at a certain date if an employee does not follow a refresher-training course. For example, pilots are required to fly a sufficient number of flying hours in a particular type of airplane. Police officers have to attend regular firearms practice, and first aid staff may have to follow regular first aid training. ORTEC WS notifies planners when skills are about to expire. ORTEC WS also warns the planner when they are scheduling employees with expired skills.

Work relations and cooperation

ORTEC WS supports various working relationships. For example, students can be assigned to a specific manager or coach. During planning, ORTEC WS monitors whether employees are assigned together. It is also possible to enter an undesirable working relationship if, on the contrary, employees cannot or should not work together.

Individual wishes

Often employees have their own wishes relating to their work schedule. For example, part-time workers make agreements about rostered days off and some employees have fixed days for bereavement leave. A roster needs to take these requests into account. One-off as well as recurring wishes can be specified within ORTEC WS. The configurations allow employees to submit their own preferences, availability, shift trade requests, or leave requests via *ORTEC WS for Employees*.



The screenshot shows the 'Requests Eilander, L.I. (01-07-2019 - 01-08-2019)' window. On the left, a tree view shows 'Eilander, L.I.' with a sub-item 'Recurring request'. The main area displays the details of this request:

- Settings:**
 - Request: Recurring request
 - Type: Recurring request
 - Description: (empty field)
- Specifications:**
 - Employee Eilander, L.I. requests from 7:00 to 23:00 (Duration (hours): 16:00): Do not work
 - Recurrence pattern: (circular arrow icon)
- Metadata:**
 - Date request: 24-04-2019
 - Status request: Open
 - Date approval/rejection: - -
 - Explanation: (None)

A sub-window titled 'Recurring request' is open, showing the 'Recurrence pattern' settings:

- Recurrence pattern:**
 - ☒ Weekly
 - ☐ Monthly
- Repeat every:** 1 week(s) on:
- Days of the week:**
 - ☐ Monday
 - ☐ Tuesday
 - ☒ Wednesday
 - ☐ Thursday
 - ☐ Friday
 - ☐ Saturday
 - ☐ Sunday
- Range of occurrence:**
 - Start: 01-05-2019
 - End: - -

Buttons at the bottom include 'New...', 'Copying', 'Remove', 'OK', and 'Cancel'.

Figure 6 - Recurring request from an employee

In addition

- It is possible for employees with different employment conditions to work within the same department. Within ORTEC WS, each individual employee is linked to a set of Employment Conditions.
- Forbidden or preferred locations can be entered for each employee. If an employee is not allowed to work somewhere (for example because he or she has not followed site induction training), this can be recorded. The plan board will display a violation if the employee is assigned to work a shift in that location. A preferred location can be used to indicate where an employee prefers to work (for example, the location closest to his or her home).
- All employees can access their own roster via *ORTEC WS for Employees*.
- Employees can view their own leave and annual hour overviews and their work hour balances.
- Employees can also enter timesheets for approval via *ORTEC WS for Employees*. Line Managers may approve timesheets in *ORTEC WS for Managers (optional module)*.
- When configured, employees will be able to enter their wishes using *ORTEC WS for Employees*. Wishes will appear in the plan board, the *Employee Schedule Optimizer (optional module)* will try to consider these wishes.
- Planners can give each wish a priority, which determines the extent to which the *Employee Schedule Optimizer (optional module)* will try to meet this requirement.
- Individual employment agreements can be defined per employee. For the *Employee Schedule Optimizer (optional module)*, these agreements count as limitations when drawing up the roster. These agreements are commonly used when certain employees would rather have a short or long series of shifts, or, for instance, when they need more rest after a night shift.



Roster management

The shift group and staffing requirements used to plan and publish schedules can be defined in the Roster Management window. Here you can also manage the schedule status. The roster management window in ORTEC WS provides immediate insight into the status of the various shifts and provides the option of defining the staffing requirements per period.

Schedule management RG demo 1

Department: demo 1

OK

Scheduling periods | **Duty sets** | Workstation demand | Scheduling criteria | Daily requirements

Duties and demand for demo 1

From	To	Duty set	Demand	Cyclical schedule
01-04-2019		Duty set 1	Demand 1	Cycl schedule 1

Maintenance duty sets: Duty set 1

Components Duty set 1: Maintenance demand: Demand 1

Maintenance cyclical schedules: Cycl schedule 1

Labor rules: (None)

Apply duty demand

Figure 7 - Duty sets in roster management

Duty Sets

One of the goals of roster management is maintaining and managing individual duties (i.e. shifts). In ORTEC WS, a duty may consist of one or several activities, including for example, a break. The required skills can be specified per activity as well as at which location or workstation the activity is to be carried out. ORTEC WS calculates the work time and the total labor time of the duty. The planner can define two colors per duty to visualize duty in the plan board as desired.

Demand

The number of employees required for a duty on a particular day can differ, for instance according to the day of the week or the season. The demand indicates how many duties the department must fill per day of the week. Demands can also be defined per date, for instance for public holidays. ORTEC WS also supports the option "staffing as on" for holidays. This is particularly useful on holidays like Easter Monday when Sunday staffing levels apply.

Daily Requirements

Aside from staffing requirements in the form of duties, it is also possible to define norms that are evaluated over all duties. For instance, you may require that an employee with a valid First Aid certificate is present at all times. ORTEC WS counts the number of employees present at any given time with the specified qualification. Understaffing is displayed as a violation in the plan board.

Status

The status of a roster determines who has access to the roster, who is allowed to make particular modifications and what the consequences of any changes are.

A roster period that has a 'Plan' status offers the planner full control; changes to the plan have no consequences in the operational plan. As soon as the planner publishes the roster, ORTEC WS logs all swaps and changes to the plan in the log files. In addition, when the roster is published, employees will have access to the roster via *ORTEC WS for Employees*. Furthermore, changes to the roster may have an impact on remuneration. In a published roster, ORTEC WS will calculate the correct hours for payroll purposes, based on the Employment Conditions applicable to the employee.

Once a roster has the 'Closed' status employees can enter their hours for approval. Once a roster has the status 'Approve', the information may be sent to a payroll system. Once the wages have been paid, the roster may be assigned the 'Processed' status.



The screenshot shows the 'Schedule management RG demo 1' window. At the top, there's a 'Department' dropdown set to 'demo 1' and an 'OK' button. Below this are tabs for 'Scheduling periods', 'Duty sets', 'Workstation demand', 'Scheduling criteria', and 'Daily requirements'. The 'Scheduling periods' tab is active, displaying a table of scheduling periods for 'RG demo 1'.

From	To	Status
01-09-2019	01-10-2019	Plan
01-08-2019	01-09-2019	Plan
01-07-2019	01-08-2019	Published
01-06-2019	01-07-2019	Published

Below the table, there's a section for 'Properties for scheduling period 01-07-2019 to 01-08-2019'. It includes a 'Description' field, a 'Scheduling round' dropdown set to '(None)', and a 'Maximum number of wildcard wishes' spinner set to 0. There's also a 'Scenarios' section with a list box and several icons. To the right of the table, there are buttons for 'Master schedule' (Apply cyclical schedule..., Apply duty demand...), 'Calendar' (Open calendar...), and 'Requests' (Open requests..., Apply requests). A 'Length (days)' field is set to 100.

Figure 8 - Scheduling periods in roster management

In addition

- ORTEC WS supports the incorporation of specific staffing levels based on events other than public holidays. For example, in retail, shops expect more customers during Sunday sales or additional late night shopping evenings. The same is true for cruise ship operations staffing on days that a large increase in tourists is expected.
- In order to ensure that the new schedule complements the schedule for the previous period, the application displays the last days from the previous schedule period in the new schedule as well.
- The workstation staffing requirements indicate how many people have to be present at a particular workplace at any given time. This staffing requirement forms the basis of the *Workstation Planning (optional module)*. In the *Workstation Planning (optional module)* it is possible to view where understaffing or surplus staff exists for any given time period.
- ORTEC WS supports the planning of leave, courses, and any other kind of absence that is known in advance. For this type of long-term planning, planners can use the calendar functionality. When a new roster is created, details from the calendar are automatically incorporated into the roster.
- The calendar offers the option of scheduling leave and vacations for a longer period in advance.

Roster methods

Whichever way you plan, ORTEC WS supports your planning method. Introducing an advanced planning system doesn't necessarily involve adjusting your working method if there is no reason to do so. Planning methods do not only differ per organization, but also often per department. Sometimes the choice of a particular method is determined by the business culture. However, it is usually work related.

Flexible roster

A flexible roster is drawn up per roster period based on staffing requirements. In doing so, the planner takes into account employee absences relating to leave or illness. In addition, the planner pays attention to the restrictions imposed by Employment Conditions (EBAs and Awards). The planner will meet employees' wishes as much as possible. ORTEC WS supports rostering both manually as well as through automatic planning using the *Employee Schedule Optimizer (optional module)*.

Shift series

Series of shifts that employees find agreeable can be specified in advance. One such example is working the entire weekend, including the Friday before and the Monday afterwards. The shift series can be defined both at a group level as well as individually within ORTEC WS. The *Employee Schedule Optimizer (optional module)* considers the desired shift series as much as possible. In addition, complete series can be entered in the roster using a single code.

Cyclical roster

Cyclical rosters can be defined for a group of employees as well as per individual. ORTEC WS checks whether the roster meets Employment Conditions. By linking several employees to the same line of the roster, it is possible to incorporate dual jobs in the basic roster. As the basic rosters for all shift groups are displayed underneath each other within the roster group, it is possible to cover staffing requirements with several groups.

Team roster

The shift roster enables cyclical patterns to be created for entire teams. Teams consist of employees with different jobs. When implementing the roster, ORTEC WS allocates the correct shifts to the employee with the corresponding job. If necessary, the activities of the various employees can be further specified within a shift using *Workstation Planning (optional module)*. The screen in which the shift roster is defined offers the same function as the shift roster scheduling board. This means that it becomes apparent while the roster is being drawn up whether the roster meets the applicable rules from Employment Conditions.



Workstation Planning (optional module)

The optional Workstation Planning module provides the possibility to plan at a task level. In ORTEC WS, the workstation plan board shows the staffing of workstations during a particular period by means of a Gantt chart. Other than that, the screen structure is identical to the shift-roster plan board.

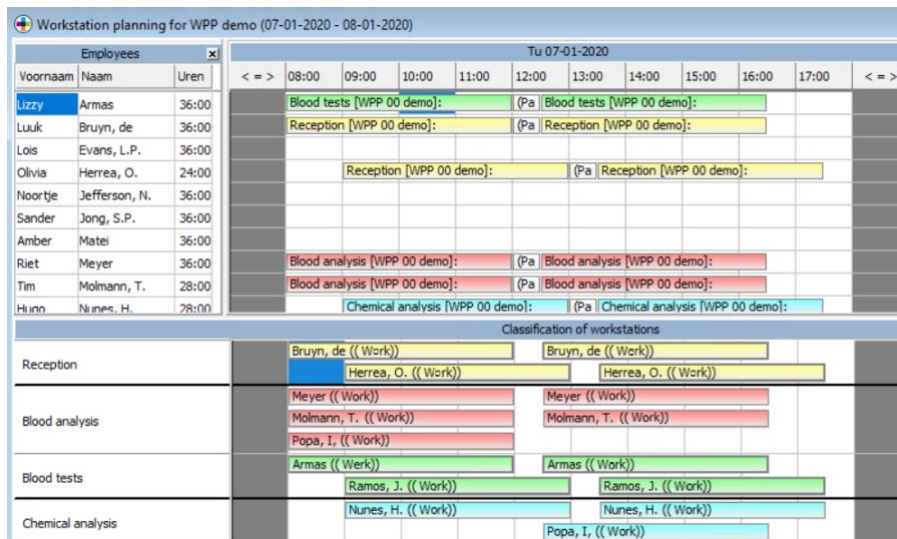


Figure 9 - Workstation planning

Understaffing and overstaffing

The bottom part of the plan board shows understaffing and surplus staff at workplaces that belong to that roster group. Differences are displayed in relation to the workstation staffing requirements that are defined in the roster management.

In addition

- Just like in the roster plan board, a planner can display alternatives for the allocation of an employee to a workstation.
- Both workplaces and employees can be sorted and filtered for a better understanding of the staffing by workstation or location.
- The *Workstation Optimizer* automatically assigns employees to workstations.

Flexpool (optional module)

Employee availability often displays peaks and troughs over time, due to factors like vacations and sick leave. Sometimes the organization needs more personnel to deal with peak workloads. They often choose to add a variety of flexible layers to adapt efficiently to changing needs, for example by borrowing or loaning employees from other departments or flexpools. Typically, the establishment, administration and organization of such a system is complex. With the optional Flexpool module, however, managing a flexible work pool is straightforward.

Flexpool helps the planner manage the scheduling of workers within departments and from your pool of flex workers. This allows organizations to adapt and control the allocation of workers across departments to the times and places where they are needed most.

Results

A central pool of flex workers that work across departments optimizes the flexibility of your employee scheduling, delivering major benefits to your business and your bottom line:

- Far less dependency on temporary workers (external hire);
- Significant cost reductions at departmental level;
- Less overhead costs and fewer errors in communication and scheduling re. flex workers;
- Better anticipation and management of cost targets;
- Faster and more reliable management accountability;
- Improved response to employees' personal needs re. allocation of their labor and leisure time;
- Increased possibilities to offer employees a richer work experience through a wider range of job rotation opportunities.



Planning tools

ORTEC has a long history with regard to the development and implementation of software for schedule optimization. Internationally, ORTEC is a leader in the development and application of mathematical and econometric models and methods.

Employee Schedule Optimizer (optional module)

The optional Employee Schedule Optimizer module generates an entire shift roster taking into account all rules that emerge from your Awards and Enterprise Bargaining Agreements. The individual requirements and work agreements made with employees also play a part. The Employee Schedule Optimizer will not allocate shifts to an employee who does not have the required skills. By allocating a priority to shifts, it is possible to roster at a minimal staffing level first, and then at the required staffing level.

Ergonomic roster criteria

Using ergonomic criteria, the results of the Roster Generator can be steered. These criteria include indicating a preference for rosters that rotate in a forward direction, the preference for working whole weekends and the preference for working a minimum of three and a maximum of six shifts in succession. The Employee Schedule Optimizer weighs the different criteria and scores relating to these criteria can be recorded as a calculation in the plan board and can be reported at a detailed level. This gives the user insight into the considerations that the Employee Schedule Optimizer needs to take into account.



Shift Creation (optional module)

The Shift Creation module is a cloud-based solution to optimize the creation of shifts to meet the demand for capacity. Based on the current demand, optimization algorithms calculate the proper distribution and lengths of the shifts. This produces an efficient set of shifts that seamlessly meshes with dynamic staffing demand and prevents over- and understaffing. The optimization algorithms also take the preferences and needs of the organization and employees into account. Shifts created are added directly to the planning board, from which they can be assigned to the employees.

Candidates for Shift

The planner can solve bottlenecks in the roster by using the Candidates for Shift Tool. The Candidates for Shift Tool is available in the roster plan board, the shift view and the *Workstation Planning (optional module)* plan board.

Shift Bidding (optional module)

The process of shift bidding involves a lot of interaction with your employees. Without a good system, this process is very time consuming and error-prone. Getting all the bids from your employees and awarding shifts according to predefined rules usually takes a lot of time. The optional Shift Bidding module offers a structured approach to personal preferences without violating Employment Conditions and workload constraints.

Shifts open for bidding are published to the workforce through *ORTEC WS for Employees* or via a notification in the app. Every employee can bid on shifts based on his or her preferences. Next, workflows can be configured to:

- Assign the shift on a first-come first-served basis, also called 'shift picking';
- Allow multiple employees to bid for shifts. Shifts can then be awarded automatically or through Candidates for Shift based on configurable rules.

Workstation Optimizer (part of the Workstation Planning module)

Creating a shift roster differs greatly to workstation planning. The Workstation Optimizer entails assigning employees to workstations, whereas shift planning entails allocating shifts to employees. In the optional Workstation Planning module, employees can automatically be assigned to specific workplaces, based on employee availability (allocated shifts, rules (such as the employee's skills and preferred workplace) and workstation demands.

Furthermore, by combining cost centers and workstations, hours are booked automatically, simplifying and streamlining the entire administrative process.



Regulatory and legislative requirements

Every HR department has to comply with strict legislation regarding work and rest hours. Rules can scarcely be checked manually, especially if they span a long period or have complicated exceptions.

Awards and Enterprise Bargaining Agreements

ORTEC WS is configured to check all rules from the Award and Enterprise Bargaining Agreement. These rules are configured in ORTEC WS following certain parameters. It is therefore easy to apply changes to the Enterprise Bargaining Agreement by an authorized employee.

Adjustable per employee

It is possible to use several Enterprise Bargaining Agreements alongside each other in ORTEC WS or to roster employees for whom different rules apply within one roster.

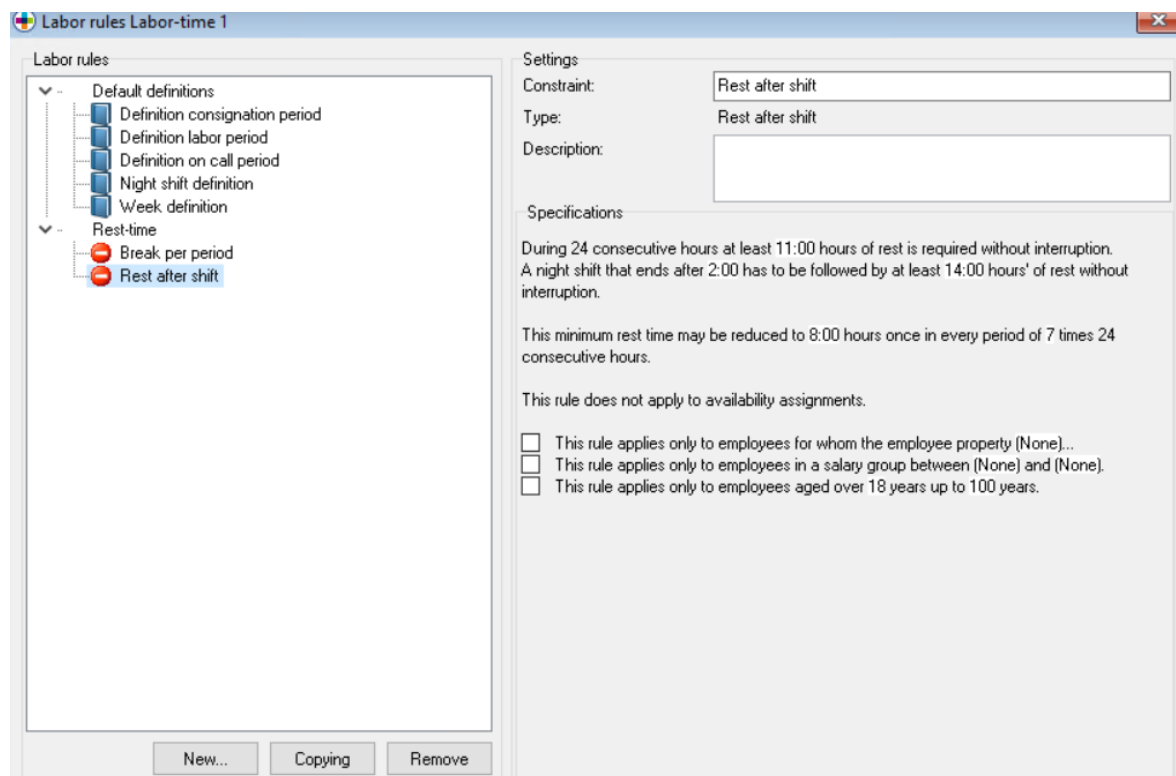


Figure 10 - Labor rule - Rest time

In addition

- The planner has the final responsibility for the roster. They are the only person who can determine whether a breach of the Award or the Enterprise Bargaining Agreement is necessary.
- In ORTEC WS, the planner can ignore violations of the rules. However, the violation will remain visible in the plan board. In order to justify his or her actions, the planner can record why the violation has been caused.
- It is possible to monitor the planning phase more strictly while creating room to solve ad hoc disruptions within the limits of the law.
- Rule violations are displayed in the plan board as they occur.
- The *Employee Schedule Optimizer (optional module)* considers the rules and generates rosters without violations.

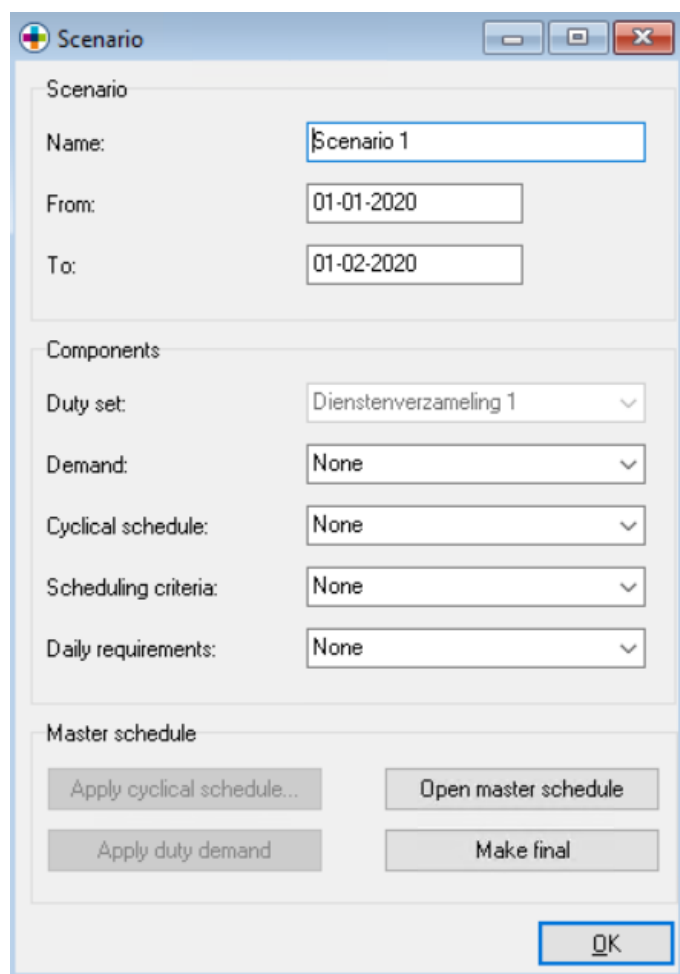


Scenario Analysis

Every so often, it may be necessary to experiment with the roster, for example when important changes are on the horizon. What is the consequence of a lower summer time staffing level? What happens if we consider more individual wishes or if we introduce a different rostering method?

Several rosters for the same period

It is possible to draw up several rosters for the same period from roster management. The conditions can be set and changed for each roster. Various alternatives can be processed in this way. When the planner is satisfied with one of the rosters, they can mark it as 'final'.



Scenario

Scenario

Name:

From:

To:

Components

Duty set:

Demand:

Cyclical schedule:

Scheduling criteria:

Daily requirements:

Master schedule

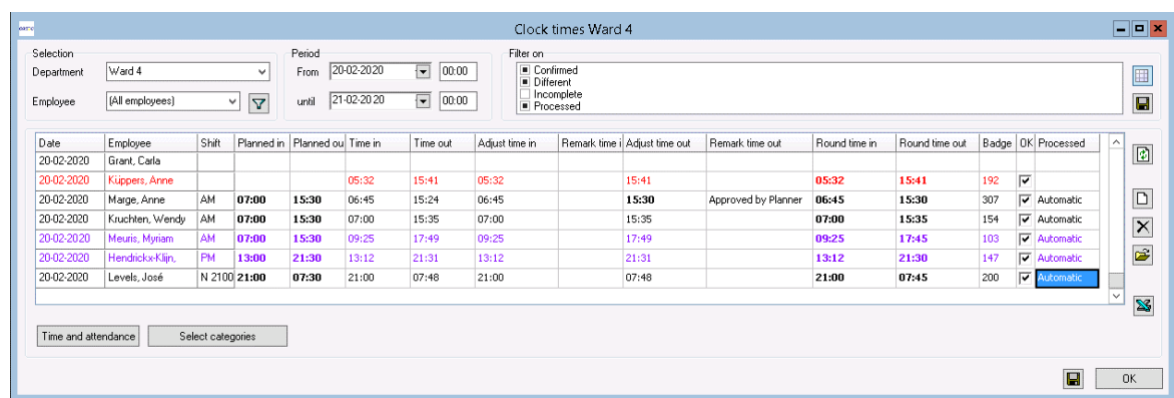
Figure 11 - Scenarios

Time and Attendance (optional module)

The actual number of hours worked is important for correct payroll processing, and influences future planning. It can thus be necessary to compensate for overtime or for the roster to be adjusted in order to avoid a breach of an EBA.

Clocking in/off times

With the optional Time and Attendance module, it is possible to interpret clocking in/off times that flow from a time recording system or a time clock. This way the manager can determine whether additional hours worked count as overtime, and how absence needs to be processed.



Date	Employee	Shift	Planned in	Planned out	Time in	Time out	Adjust time in	Remark time in	Adjust time out	Remark time out	Round time in	Round time out	Badge	OK	Processed
20-02-2020	Grant, Carla				05:32	15:41	05:32		15:41		05:32	15:41	192	✓	
20-02-2020	Marge, Anne	AM	07:00	15:30	06:45	15:24	06:45		15:30	Approved by Planner	06:45	15:30	307	✓	Automatic
20-02-2020	Kruchten, Wendy	AM	07:00	15:30	07:00	15:35	07:00		15:35		07:00	15:35	154	✓	Automatic
20-02-2020	Meuris, Myriam	AM	07:00	15:30	09:25	17:49	09:25		17:49		09:25	17:45	103	✓	Automatic
20-02-2020	Hendicks-Klijn,	PM	13:00	21:30	13:12	21:31	13:12		21:31		13:12	21:30	147	✓	Automatic
20-02-2020	Levels, José	N 2100	21:00	07:30	21:00	07:46	21:00		07:46		21:00	07:45	200	✓	Automatic

Figure 12 - Time and Attendance

In addition

- If an employee accounts for his own hours, these can only be incorporated once an authorized person has approved them in the system.

Preparation of Payroll Processing

Many payroll systems do not have the ability to calculate the fees, allowances, settlements, and compensations that flow from the roster.

Accounts

Using an accounts mechanism, ORTEC WS provides a unique way of calculating and displaying all of the roster's payment- related consequences. The mechanism is derived from the old-fashioned (paper) accounting card, which was used by human resources departments to take note of the amount of leave owed and deductions to the amount of the leave hours.

ORTEC WS has proven time and again to be an extremely flexible tool for clients to organize charts to deal with leave time that needs to be accounted for.

Payment based on the rules from the Enterprise Bargaining Agreement

The accounts mechanism enables calculations to be applied to an employee's shift roster. The calculations flow from payment/remuneration rules that are included in the Enterprise Bargaining Agreement, or the contract that applies to the employee. ORTEC WS is thus able to deduce the extra time worked based on complex legislation exactly as specified in the applicable EBA.

Because the balances of the various accounts and the categories contained on them can be displayed in the plan board, the planner can take the employment conditions related to the consequences of their actions into account during the planning stage.



Immediately accessible

Employees want to have immediate insight into their leave balance. Managers want to be able to see in how much overtime allowance needs to be paid or the level of absenteeism in real time. In addition, planners may want to spread out the overtime allowance evenly. Just like the counters in the plan board, balances on the accounts are immediately updated based on changes to the roster. Therefore, accounts are always up to date.

Implement corrections

Every now and then, it is necessary to correct an account. For example, in the event that an employee has forgotten to indicate some overtime a few months ago or if an employee has used a few extra vacation days. In the first case, the payment for the period has already taken place. In the second case, it is important to correct the leave records. ORTEC WS offers the option of correcting the balances on accounts manually. An authorized person must approve the corrections.

Retroactive Corrections (optional module)

The optional Retroactive Corrections module allows users to update shifts in rosters that are already closed, approved or processed. If authorized, employees are able to enter corrections themselves in ORTEC WS for Employees, even after the payroll for that period has been processed. However, the information on the accounts card is not updated until the planner or manager approves the shift update.

Planners will also be able to enter shift updates in already approved or processed rosters, without having to adjust the status of the scheduling period. ORTEC WS can be configured to require an

approval from a manager for these shift updates.

In addition

- The accounts mechanism also quickly provides an understanding into, for example, the total amount of leave owed to all employees in a department or the total amount of overtime for a particular day. By sorting and filtering the bookings on the accounts, a correct understanding of the deployment of a particular group or partial group can be gained.
- All account balances can be reported and exported to Microsoft Excel. Accordingly, the accounts mechanism provides the basis to provide estimates for management.
- The balances or bookings from accounts can be exported to a payroll system. ORTEC has experience working with a wide range of payroll processing packages.



ORTEC WS for Employees

Planners spend a relatively large part of their time on administrative tasks and communicating with their employees. ORTEC WS for Employees allows a substantial part of these tasks to be performed by the employee, either via a web portal or a mobile app. As a result, planners have more time to focus on their main task: creating efficient rosters.

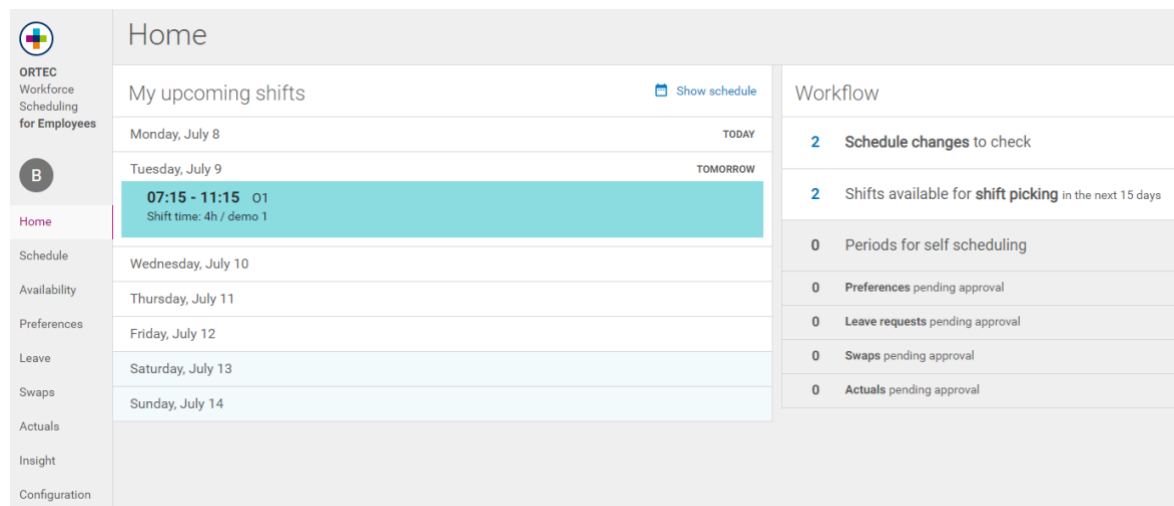


Figure 13 - ORTEC WS for Employees

Shift roster

ORTEC WS for Employees provides online access to the shift roster. The information is always up to date and can be accessed from any location or at any time.

Requests and shift preferences

Giving employees more influence over their rosters increases job satisfaction. ORTEC WS for Employees provides a platform where employees themselves can make certain adjustments to their roster. ORTEC WS for Employees provides the functionality to enter:

- Swap requests
- Leave requests
- Scheduling requests
- Availability

Swap Requests

Depending on the level of autonomy your organization wishes to extend to its employees, it is possible to apply swaps through ORTEC WS for Employees. When the other party agrees to the swapping proposal, they can also accept it via ORTEC WS for Employees. ORTEC WS ensures that no violations occur as a result of the swap.

Leave Requests

Employees are able to apply for leave through ORTEC WS for Employees. Various types of leave can be set up based on your organization's needs. Using the optional *ORTEC WS for Managers*

module, managers can evaluate leave requests and employees can view the status of their requests: open, processing, approved, or rejected.

Scheduling Requests

ORTEC WS for Employees can be configured to facilitate personal scheduling preferences. First, planners are able to advertise vacant shifts via *Shift Bidding (optional module)*. Furthermore, ORTEC WS for Employees provides the functionality for (casual) employees to indicate when they want or do not want to work. ORTEC WS is equipped with different mechanisms to process these preferences: through Candidates for Shift and even through the *Employee Schedule Optimizer (optional module)*.

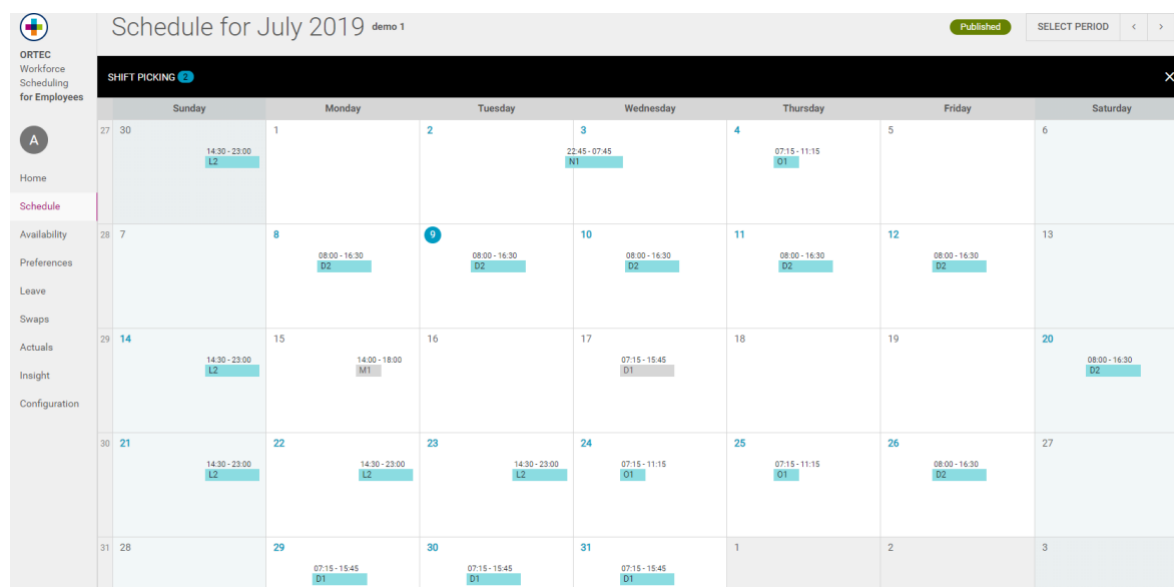


Figure 14 - Personal roster

Availability

Employees can enter their own availability, enabling them to quickly and conveniently indicate which days or hours they are available to work.

Time sheets

Employees are able to update shifts based on the actual hours worked. This time sheet functionality allows employees to confirm a shift or to update the shift to capture overtime. Depending on the configuration of the solution, employees may even be able to add information about the jobs done during the shift, workstations and/or cost centers.

Prior to sending the information to payroll, timesheets will have to be approved by a manager and/or planner.

Anywhere, anytime

We are increasingly used to gathering information and communicating through our smartphones and tablets. The Employee Self Service App for iOS and Android allows employees to access the most up-to-date information on their roster and communicate easily with their planner anytime, anywhere.

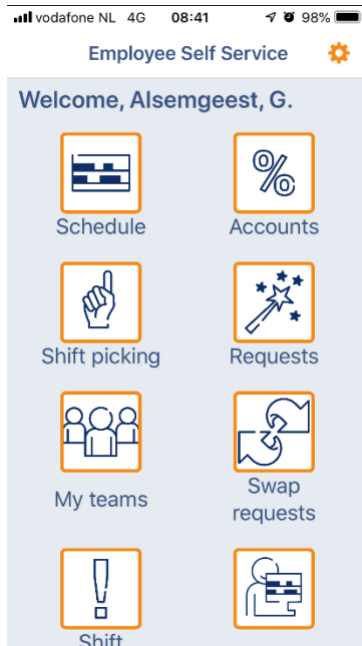


Figure 15 - ESS Smartphone app

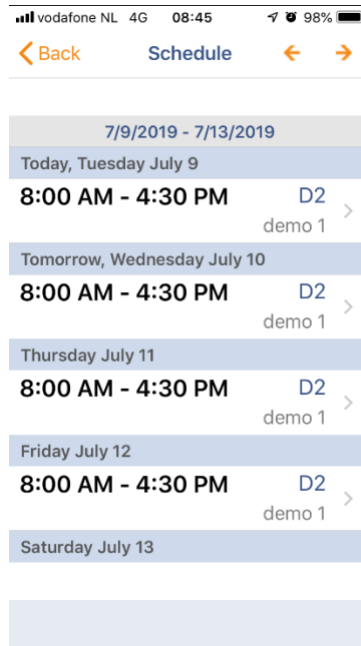


Figure 16 - Personal roster

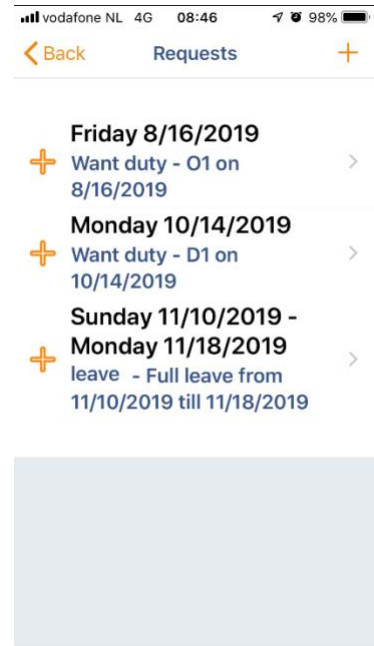


Figure 17 - Requests

In addition

- Employees can request the current balances of the various accounts. They are therefore able to see how many hours of leave they have left.
- Your organization is able to build reports with relevant information for employees. These reports can be made available through ORTEC WS for Employees for those authorized to view them.

ORTEC Ad Hoc Planning (optional module)

ORTEC Ad Hoc Planning is a web-based application that complements ORTEC WS.

The module simplifies the process of entering last-minute changes to the schedule after the shift schedule has been published. This helps to guarantee continuity in terms of staffing and service quality.

The illustration below shows the application's position within the broader scheduling process. Once a shift schedule has been drawn up and processed, ORTEC Ad Hoc Planning provides a real-time overview of understaffed shifts at the departmental and supra-departmental level for the next 7 days. Absence reports are sent straight to the system, after which the web application will suggest the best replacement for the open shift. In the process, it takes all pre-programmed restrictions and conditions into consideration, such as availability, required skills, CLA rules and employee preferences. That allows you to immediately respond to any disruptions in the schedule. All changes are immediately recorded in ORTEC WS, where they can be realized and approved.

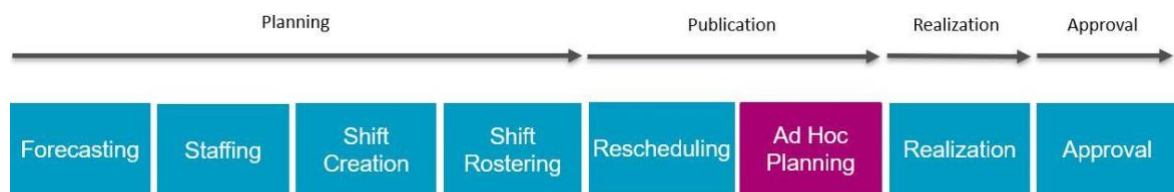


Figure 18 - Scheduling process

ORTEC WS for Managers (optional module)

The optional Manager Self-service module is a web-based application with the same look and feel as *ORTEC WS for Employees*. Thanks to ORTEC WS for Managers, (team) managers are able to view their team's roster, including absences due to annual leave and sickness. Manager Self-service facilitates the approval process around leave requests and time sheets.

ORTEC WS for Managers can also be configured to allow managers to check balances (leave balances, overtime, etc.) for each of their team members. Finally, when authorized, managers are able to see published reports.

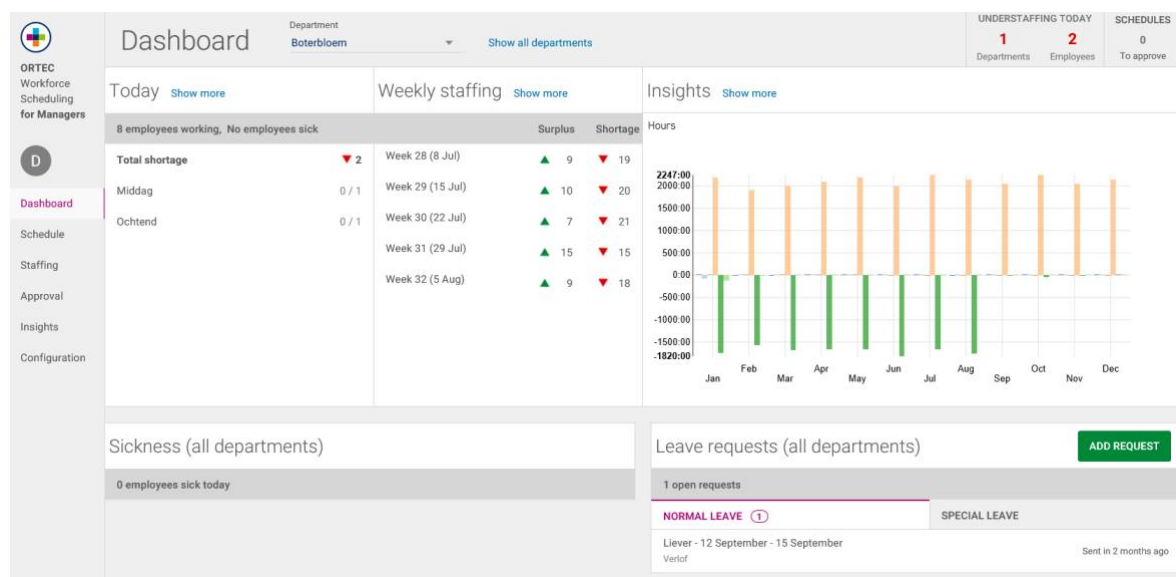


Figure 19 - ORTEC WS for Managers

Reports and Overviews

ORTEC WS contains various reporting options. A set of standard reports come pre-installed. Experience shows that the reports required differ per organization. In addition to the standard reports, we define the exact definitions and layout of company-specific reports together with the client.

Management information

All counters within ORTEC WS can be immediately incorporated in reports and overviews. The same applies to individual bookings, categories, and account balances. Because counts and balances are saved collectively, it is easy to generate the required management reports from ORTEC WS.

Report generator

Because of the open database structure, it is always possible to gain access to the data in ORTEC WS and build reports using a query tool or a report generator. In addition, the XML interface provides the option of making a direct link to an information management system.

Business Intelligence Support (optional module)

For many businesses, gaining a clear overview of your workforce scheduling is complex and time-consuming. Managers and administrators have to work through endless amounts of Excel sheets to uncover information they need to make strategic decisions. This makes it difficult to get any sort of overview, let alone make the right strategic decisions to ensure the optimal use of your human resources.

If you aggregate the data in ORTEC WS at a departmental or organizational level and translate it into easy to read KPIs and graphs you have a clear scheduling overview. Moreover, by combining that aggregated scheduling data with information from other systems, such as financial or HR software, you can also get big picture insights that can add real value to your decision-making. This improves the effectiveness of the workforce at a strategic level.

The optional Business Intelligence Support module lets you integrate data from ORTEC WS with a BI system to create easily interpretable workforce facts & figures. It provides a data mart, generated from the ORTEC WS database, specifically designed to produce higher-level management reports.

Budget and Control (optional module)

Profitability and service quality improve when your personnel deployment is demand-driven and designed to meet expected turnover, considering seasonal order patterns, high and low periods for client contacts and other factors. Demand-driven deployment is obtained by setting and then planning against workforce scheduling targets linked to appropriate performance indicators, such as labor costs and labor time.



The challenge is to get your planners to roster against such budget targets, by making them continuously aware of those targets and the performance metrics behind them.

To stimulate demand-driven rostering the optional Budget and Control module helps:

- Set workforce deployment-related performance targets, with metrics in areas such as workforce availability (time and quality) and workforce costs;
- Let planners and managers know the targets upfront via the planning boards used to create workforce rosters;
- Provide planners with real-time feedback on performance against metrics while they are creating and updating workforce rosters. Including target violation alerts, so they can make timely adjustments.

In addition

- All reports and overviews can be sent directly from ORTEC WS by e-mail to the relevant employees.
- All reports and overviews can be exported in Excel format, so that they can be further processed.



Integration: interfacing and linking

ORTEC WS can be used as a stand-alone solution, but it can also be fully integrated with your administrative processes.

Human Resources Information System

ORTEC WS can be connected to almost any Human Resources Information System's (HRIS) front end. Standard connections are available for various systems. Data from the HRIS can be supplemented within ORTEC WS. In addition, ORTEC WS offers you the opportunity to add new employees manually to aid planning. Relevant details are synchronized with the HRIS at a later stage.

Time clock and time-recording system

In order to record hours worked, ORTEC WS can be linked to both a time clock as well as a time recording system. ORTEC WS also serves as a time recording system itself. It provides the correct data relating to the roster p to the payroll department. If you are already using a time recording system, ORTEC WS ensures that any discrepancies between execution and planning are visible within the roster, so that this can be taken into account in the future.



Payroll system

ORTEC WS has standard links to a large number of payroll processing systems. Depending on the need and the options, ORTEC WS provides the hours worked or the entire calculation of allowances and payments

In addition

- Because of ORTEC WS' XML interface, ORTEC WS can be linked to almost any system.
- Various clients use integrations with company-specific applications, for instance systems with flight details, train timetables, and postal workers' walking routes.
- ORTEC can also implement an integration with a sickness registration system, an invoicing system or a management information system.
- ORTEC WS is part of the ORTEC Advanced Planning Software Suite. This suite offers a wide range of solutions for project planning, multi-resource planning, task planning, and route planning.
- ORTEC WS can be integrated with ERP systems.

Access Control

Access Control gives the application manager the ability to provide employees with access to ORTEC WS based on roles. A role determines the functionality to which employees have access.

Depending on the authorizations per role, the user has the right to search for data or to modify it. Access can be further limited to one or several roster groups. If desired, user identification can take place when logging in via Windows ('Single Sign On'). Consequently, the user does not need to log in separately to ORTEC WS.

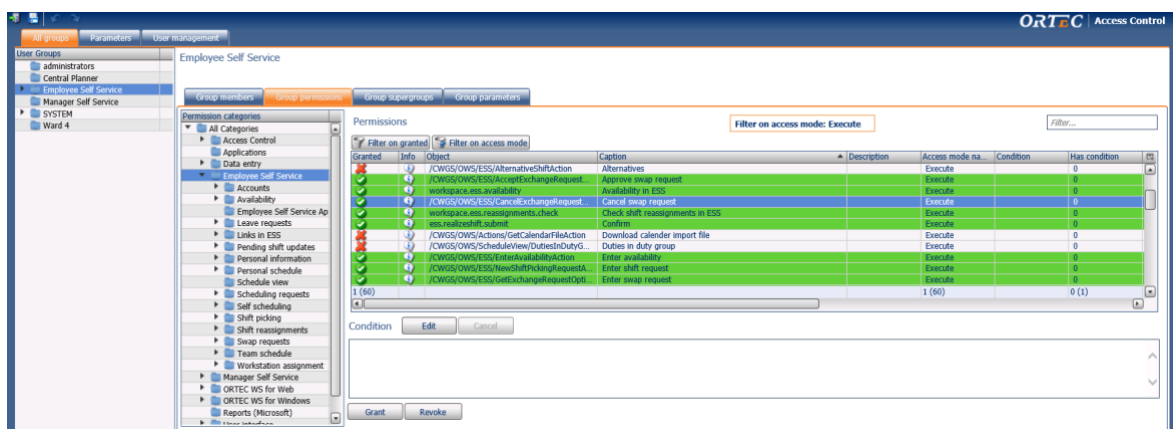


Figure 20 - Access Control

Configuration options

Through configuration settings, ORTEC consultants can adjust the solution to your organization and business processes. ORTEC WS has extensive configuration options, which enable customization for your organization's needs. Functionalities can be added or left out.



